



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-748-201
Job Sheet 174672



Part No: D350-748-201

Job Qty: 1 ea

Part Name: Aft Crosstube AS350 / AS355



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/20/18

Job Tracking No:

Due Date: 7/20/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV H IPP Rev: A New Issue 06-07-05 JLM IPP Rev: B Update qty of MS21042L5 06-09-12 KJ IPP Rev C Combined manufacturing 08.04.02 EC verified: DD IPP Rev: D 08-06-24 revD as per dwg DD verified: EC IPP Rev: E 08.12.11 Step17 was step 21 KJ Verified: EC IPP Rev: F 10.08.04 added QSI010 4.3 DD ver: EC IPP REV: G ADD UNDER BEND COMMENT 12-05-28 JLM IPP REV: H 12.11.05 as per dwg D350-748-141G DD ver: JLM IPP REV: I 15.03.19 as per dwg D350-748-241 revH dd ver: jlm

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		7/19/18	0.00	0.00	Start Up Crosstubes-1		18-7-17 DPZ
110	CNC Bend Crosstubes	1 pcs		7/19/18	0.00	2.94	CNC Bend Crosstube		18-7-17 DPZ
120	Crosstubes	1 pcs		7/19/18	0.00	2.65	Crosstubes-2		18-7-17 DPZ
125	Outsource	1 pcs		7/19/18	0.00	0.00	Outsource1 P/O: 040518		18-7-17 DPZ
126	Packaging	1 pcs		7/19/18	0.00	0.00	Packaging2		JUL 19 2018
127	QC	1 pcs		7/19/18	0.00	0.00	QC15		JUL 19 2018
128	Crosstubes	1 pcs		7/19/18	0.00	2.65	Crosstubes-2		DPZ
130	Crosstubes	1 pcs		7/19/18	0.00	1.85	Crosstubes-2		DPZ
140	QC	1 pcs		7/19/18	0.00	0.00	QC6		38
150	Outsource	1 pcs		7/19/18	0.00	0.00	Outsource3		18-8-23
160	Packaging	1 pcs		7/19/18	0.00	0.00	Packaging2		AUG 15 2018
170	QC	1 pcs		7/19/18	0.00	0.00	QC6		18-8-23
174	Outsource	1 pcs		7/19/18	0.00	0.00	Outsource2		AUG 21 2018
176	Packaging	1 pcs		7/19/18	0.00	0.00	Packaging2		38
178	QC	1 pcs		7/19/18	0.00	0.00	QC5		18-8-23
180	Spray Paint	1 pcs		7/19/18	0.00	0.88	Spray Paint		18-8-23
190	QC	1 pcs		7/19/18	0.00	0.00	QC14		18-8-23
200	Crosstubes	1 pcs		7/20/18	0.00	1.85	Crosstubes-2		AUG 27 2018
210	QC	1 pcs		7/20/18	0.00	0.00	QC5		38
220	Packaging	1 pcs		7/20/18	0.00	0.00	Packaging1-3		18-8-23
230	QC	1 pcs		7/20/18	0.00	0.00	QC4		18-8-23
235	DC	1 pcs		7/20/18	0.00	0.00	DC		18-8-23
240	Packaging	1 pcs		7/20/18	0.00	0.00	Packaging3-1		18-8-23
250	QC21-FG	1 Ea		7/20/18	0.00	0.00	QC21		18-8-23

Part Op 110 - Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT 21 *****UNDER 2018

Descriptions: BEND .225" PER SIDE*****

120 - ****VERIFY CROSSTUBE DIMENSIONS AS PER DWG****

125 - ISSUE P/O TO METCOR: _____

127 - ***MARK CUT LINES***

128 - CUT TUBE AT HEIGHT ON FAI SHEET **Twist: 0-001**

130 - 2- Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs, 3 -Deburr 4- Engrave Part # and Batch # as per

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
	Rework ☐	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	
	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐		

Date: _____	Step #: _____	QTY Effective: _____	MRB (QSI042) Approval
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Description Work Order Deviation	Disposition	Completed By
		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER :			

Dwg D350-748-241 5-Remove all marks from tube within limits of D350-748-241

150 - Issue P/O: 040630

160 - Ensure certificate of conformity is attached

174 - ISSUE P/O TO ACCUREN: 040752 WAB AUG 17 2018

180 - 1-Prime inside and out crosstube as per QSI 005 4.2 Prime 138877 Paint 138711

190 - Then, Wrap in plastic bag to protect from scratches

200 - INSTALL GROUND WIRE INSERT, THEN INSERT SCREW AND WASHER 2-Install supports with Proseal 890 per D350-748-241 and QSI 015 EXP: _____ 3-Install supports clamps Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS.

235 - Photocopy bluefile & type labels per PPPD350-748-201 CHG003

240 - Identify and pack for shipping as per PPPD350-748-201 PPP Rev: _____

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D350-748-241TRN	Crosstube Turning Detail	1 (1 ea)	90-Start up Operation	
ALS4-1032-225	Rivnut	1 Ea (1 ea)	200-Crosstubes	
D3502-1	Support	2 Ea (2 ea)	200-Crosstubes	
D5123-7	Clamp Cushion	2 Ea (2 ea)	200-Crosstubes	
MS21920-20	Clamp	2 Ea (2 ea)	200-Crosstubes	
MS27039-1-10	Screw	1 Ea (1 ea)	200-Crosstubes	
NAS1149D0363J	Washer	1 Ea (1 ea)	200-Crosstubes	
AN4-41A	Bolt	8 Ea (8 ea)	220-Packaging	
AN4-6A	Bolt	16 Ea (16 ea)	220-Packaging	
AN5-32A	Bolt	4 Ea (4 ea)	220-Packaging	
D3500-1	Saddle	4 Ea (4 ea)	220-Packaging	
D3501-1	Bushing	16 Ea (16 ea)	220-Packaging	
MS21042L4	Nut	24 Ea (24 ea)	220-Packaging	
MS21042L5	Nut	4 Ea (4 ea)	220-Packaging	
NAS1149D0463J	Washer	32 Ea (32 ea)	220-Packaging	
NAS1149D0563J	Washer	8 Ea (8 ea)	220-Packaging	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation <u>5071689</u>	D350-748-241TRN	1	0	0
200-Crosstubes	ALS4-1032-225 <u>F1136579</u>	①	1,149	0
	D3502-1 <u>F163478</u>	②	62	0
	D5123-7 <u>F153236</u>	②	145	0
	MS21920-20 <u>5024478</u>	②	108	0
	MS27039-1-10 <u>3071834</u>	①	313	0
	NAS1149D0363J <u>5068661</u>	①	3,131	0
220-Packaging	AN4-41A	8	230	0
	AN4-6A	16	620	0
	AN5-32A	4	114	0
	D3500-1	4	101	0
	D3501-1	16	99	0
	MS21042L4	24	2,466	0
	MS21042L5	4	722	0
	NAS1149D0463J	32	3,386	0
	NAS1149D0563J	8	2,107	0

Part Specifications

Specifications could not be found.

DART
AEROSPACE

Container No: **S092564**



Part: **D350-748-201**

Job No: **174672**

Serial No/Batch: **S092564**

Revision:

Inspector:

Exp Date:

Instructions:

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 832-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 3/20/18 1:47 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

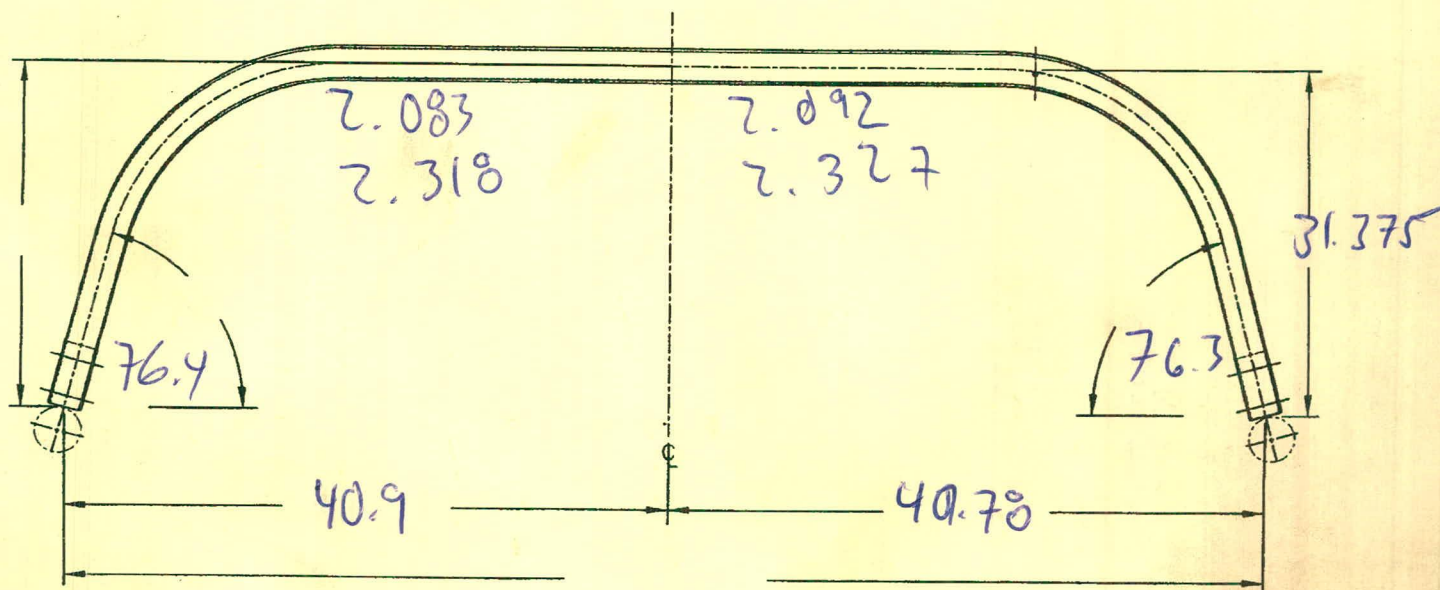
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

DART AEROSPACE LTD		Work Order:	174672
Description: Crosstube High Aft (AS350/355)		Part Number:	D350-748-201
Inspection Dwg: D350-748-241	Rev: H	Page 1 of 1	

Required Dimension	Min	Max
Height	31.10	31.60
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06
Bending Passes	7	--
Crushing	--	8%
Twist	--	0.38



	Side A	Side B
Bending Passes	43	43
Crushing	5.3%	5.3%
Comments		

QC15 Inspection	EB
Date	16-07-19

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	10.08.23	Dwg Rev updated	KJ	
C	12.04.16	Added bending, crushing & twist dimensions	KJ	
D	12.07.31	Dwg Rev updated	KJ	
E	13.02.27	Dwg Rev updated	KJ	
F	14.02.13	Crushing & twist dimensions revised	KJ	
G	14.11.10	Height dimension revised	KJ	
H	15.07.20	Crushing dimension revised	KJ	

Item	Qty -241	Part Number	Description
1	X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6015-125	CROSSTUBE (OR D6018-125)
3	2	D3502-1	SUPPORT
4	2	D5123-7	CLAMP CUSHION
5	1	AELS-1032-225	INSERT
6	1	NAS1149D0363J	WASHER (OR AN960JD10)
7	2	MS21920-20	CLAMP (OR MS21920-21/-22, PER DART SPEC. M-MS21920-21/-22)
8	1	MS27039-1-10	SCREW
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6015-125 OR D6018-125
FINISHED LENGTH AFTER TURNING = 124.70±0.06 (AFTER BENDING/TRIMMING = 122.70 REF)
- 2) FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCE: PER DART QSI 018 UNLESS OTHERWISE NOTED.
WALL THICKNESS ECCENTRICITY PER DART QSI 038 7.2
MIN. ALLOWABLE WALL IS -0.020 FROM NOMINAL
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-241" AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 29.85 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.297 HOLE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.

TURNING

- 10) BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- 11) HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS2759/1E AFTER TURNING. ACCEPTABLE TO VERIFY TENSILE STRENGTH BY HARDNESS TEST PER ASTM E18 TO 40-45 HRC.

BENDING

- 12) ALL DIMENSIONS FOR BENT TUBE ARE POST STRESS RELIEF
- 13) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES PER SIDE. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D. ON TOP HALF OF BEND, AND 8% ON BOTTOM HALF OF BEND.
- 14) MAX AMPLITUDE OF RIBBLING ALONG BENT PORTION OF THE TUBE IS 0.030 (ZN A1-3)
- 15) AFTER BENDING, STRESS RELIEVE TUBE AT 650°F ±10.25°F FOR A MINIMUM OF 2 HRS AND ALLOW TO COOL TO AMBIENT TEMPERATURE (REF AMS2759/1E).
- 16) MAX TWIST AFTER STRESS RELIEF: WITH TUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.38 (ZN C1-3).

ASSEMBLY

- 17) TO INSTALL D3502-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.02" TO 0.05" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 18) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

SHOP COPY
RETURN TO
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 174672 MWS
18-03-21

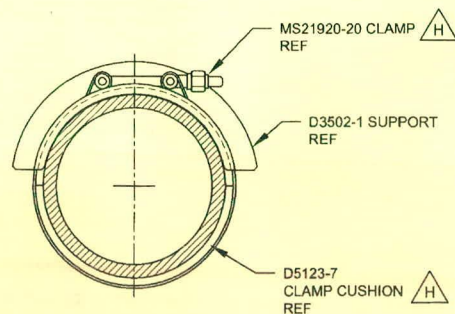
RELEASED

2015 MAR 18

4P ECU 15-547

H	D5123-7 WAS D3595-063-395, MS21920-20 WAS -22, ALLOWABLE CRUSHING NOW 8% WAS 7%, 14.00 WAS 14.37 (D5-2), 12.32 WAS 12.89 (D5-3)	CP	15.02.25
G	RMV ABRASION STRIP, SUPPORT NOW W/ PROSEAL & CUSHION, ADD STRESS RELIEF, LONGER CUFF, NOW TRIM'D AFTER BEND, ADD WALL DIMS & UPDATE TOL.	CP	12.09.12
F	ADD HRC TEST OPTION (B8-1) PER PAR 08-040, ADD TWIST LIMIT (A8-1, C1-3), ADD D6015-125 OPTION (C8-1), STOCK DIM NOW MACHINED (D1-4)	CP	10.11.23
E	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A8-3); ADD TOLERANCES (ZN C6-3, D2-3)	RF	09.09.30
D	MAG. PARTICLE AND CAD PLATE AS MFD.	CP	08.10.31
C	ADD CAD PLATING	CP	06.08.14
B	ADD D6018-125 & PRIME AND PAINT	CP	06.06.30
A	NEW ISSUE	CP	06.03.31
REV.	DESCRIPTION	BY	DATE
DESIGN	9P	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	9P		
CHECKED	AS	DRAWING NO.	REV. H
MFG. APPR.	AS	D350-748-241	SHEET 1 OF 4
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	15.02.25	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

**D350-748-241
ASSEMBLY DETAIL**



SECTION A-A D4-2
SCALE 6X

INSTALL THIS SIDE ONLY, AFTER FINISH:
AELS-1032-225 INSERT
NAS1149D0363J WASHER
MS27039-1-10 SCREW

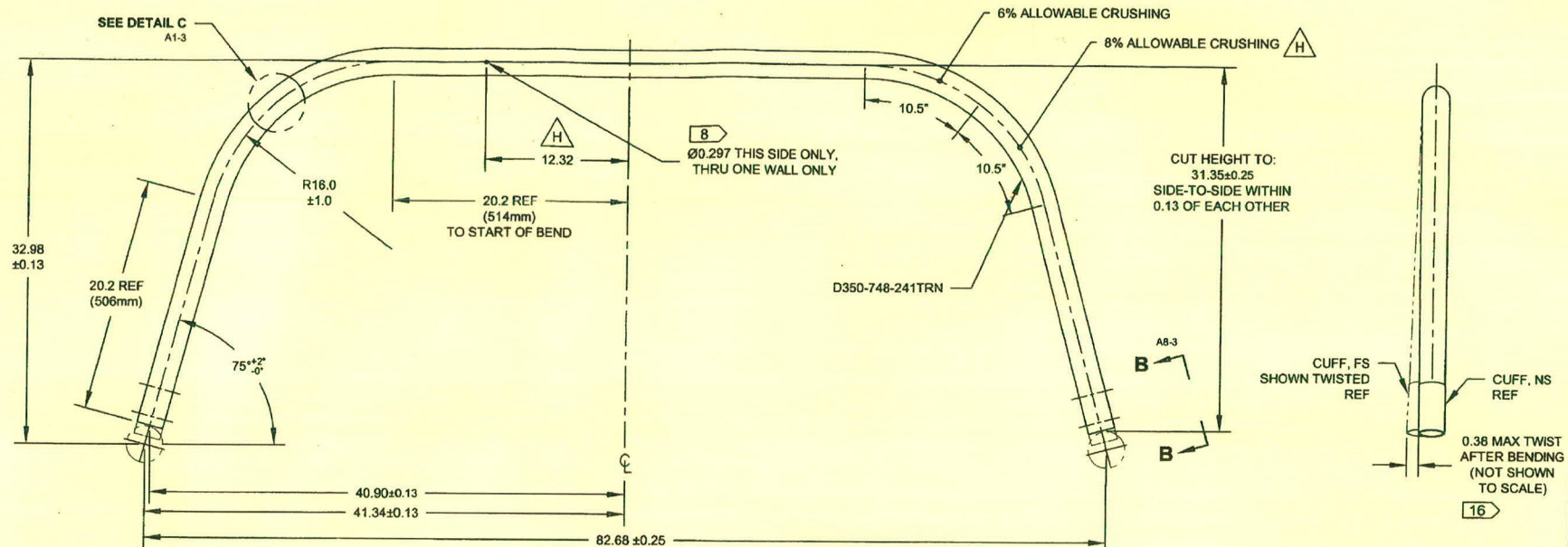
17 18
D3502-1 SUPPORT
MS21920-20 CLAMP (OR -21/-22)
D5123-7 CLAMP CUSHION
2 PL

D350-748-241
BENT TUBE

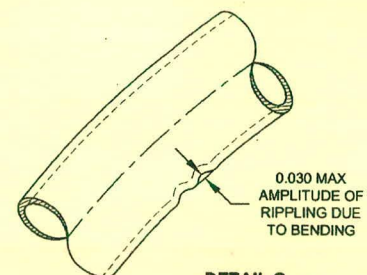
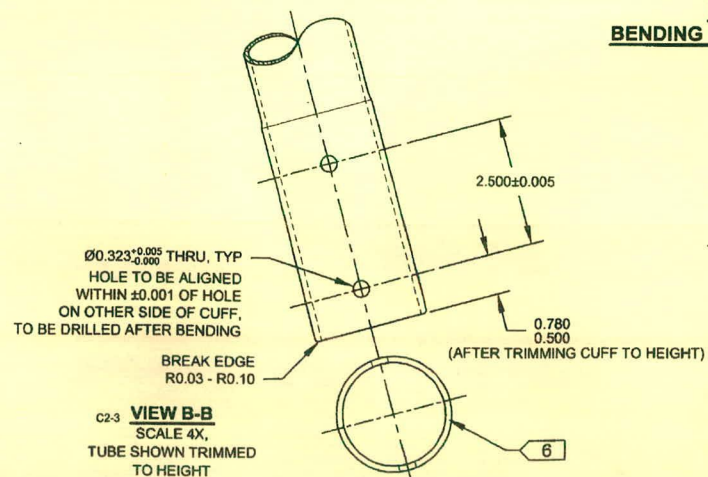
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2015 MAR 18

DESIGN	92	DART AEROSPACE LTD	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. H
MFG. APPR.	NS	D350-748-241	SHEET 2 OF 4
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DE APPR.	#	CROSSTUBE (AS 350/355 HI AFT)	NTS
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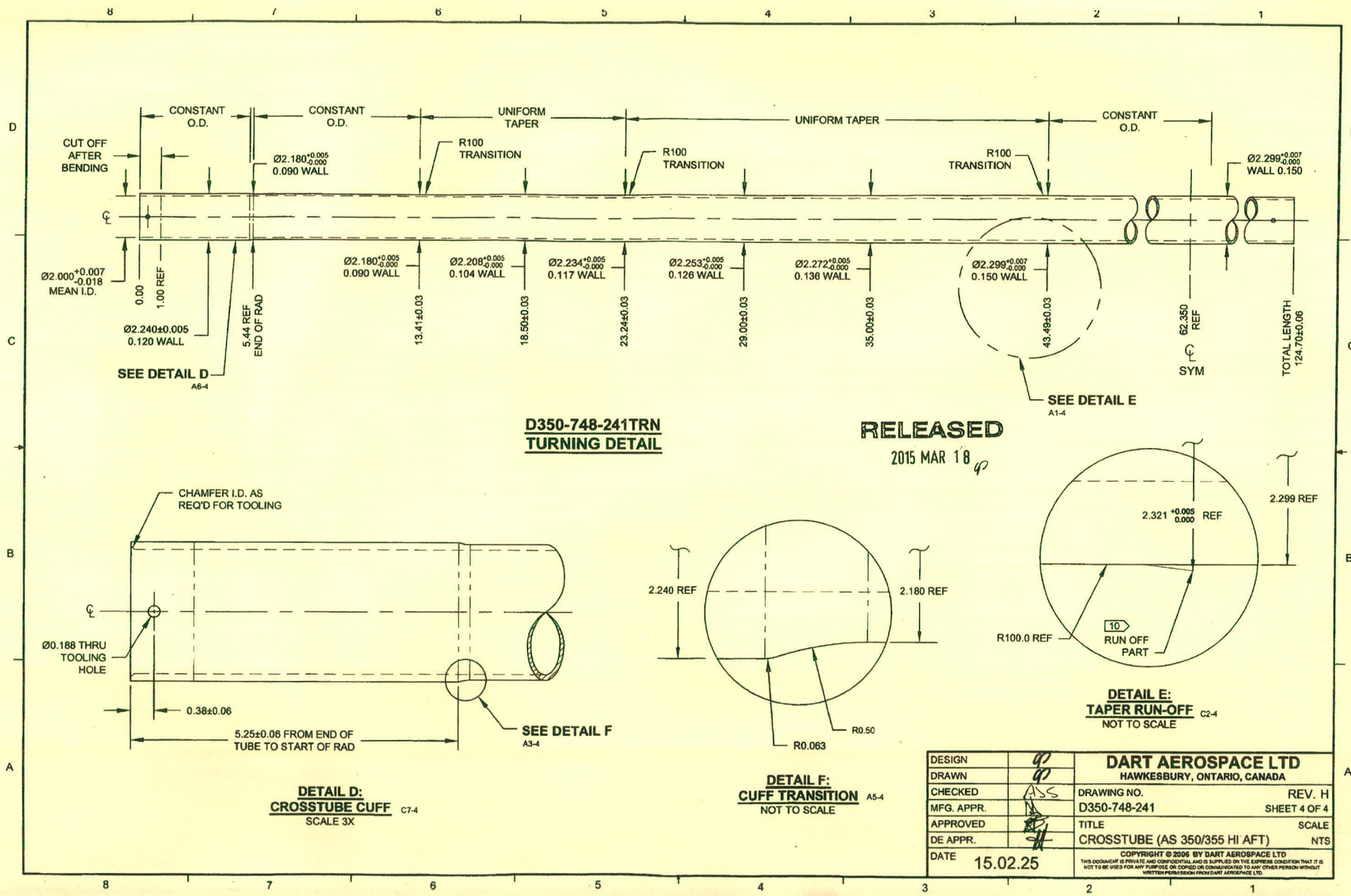
D350-748-241
BENDING AND DRILLING DETAIL 10



RELEASED

2015 MAR 18

DESIGN	90	DART AEROSPACE LTD	
DRAWN	90	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. H
MFG. APPR.		D350-748-241	SHEET 3 OF 4
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**D350-748-241TRN
TURNING DETAIL**

RELEASED

2015 MAR 18

DESIGN	qp	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	qp		
CHECKED	ASS	DRAWING NO.	REV. H
MFG. APPR.	N	D350-748-241	SHEET 4 OF 4
APPROVED	SE	TITLE	SCALE
DE APPR.	SH	CROSSTUBE (AS 350/355 HI AFT)	NTS
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METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
329168	1	129686

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

LIVRÉ À /Shipped To

DART AEROSPACE

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
040518		Steel	2018/7/17	client

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
----------------------	-------------------------	--------------------------------	---	-----------------

✓ 5 D350-748-201 150,
(5) D350-748-201 ✓
JOB 174648,174649,174672,174646,174668

1 NIL

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
NIL	1	

CERTIFICAT

EMPAQUETAGE Packing	
------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 5

POIDS EXPÉDIÉ / Weight Shipped : 150,00

QUANTITÉ RESTANTE / Quantity Remaining : 0

POIDS RESTANT / Weight Remaining : 0,00

APPROUVÉ

CERTIFICAT

QUANTITÉ EXPÉDIÉE Quantity Shipped: 5

POIDS EXPÉDIÉ / Weight Shipped : 150,00

Signature:

Date:

EXPÉDIÉ LE / Shipped On : 2018/07/18

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité

Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
329168	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
040518	N/A	Steel		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

STRESS REL

SAE AMS 2758/1 REV.E

EXIGENCE / requirement SPÉCIFICATIONS / specified TESTS EXÉCUTÉS / performed RÉSULTATS DE TESTS / results

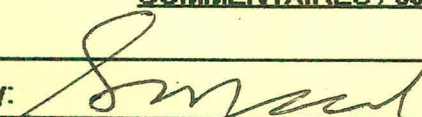
Visual

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
5	150	D350-748-201 (5) D350-748-201 JOB 174648,174649,174672,174646,174668 1 NIL

18/7/18

COMMENTAIRES / comments

APPROUVÉ par / Approved by:



DATE: 2018-07-18

APPROUVÉ



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO040630

Supplier: CAD002-VC
Cadorath Coating
2150 Logan Ave.
Winnipeg
MB
R2R 0J2 Canada
Phone: 204 633 9420
Fax: 204 633 8033

PO No: PO040630
PO Date: 7/27/18
Due Date: 8/1/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174632	D350-748-101	FWD Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 Issue P/O: Stress relief at 375degree for 5hrs Magnetic Particle Inspect per ASTM E1444 Cad Plate per AMS-QQ-P-416B, Class 1, Type 2 Embrittle relief at 375 defree for 8 hrs, Chromate Treat C of C req'd	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	181018	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174619	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174638	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
	174644	1 X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00
Sub Total:							5	0	5		\$4,025.00

CT

PURCHASE ORDER

Items												
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price	
2	174648	D350-748-201	Aft Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 Issue P/O: _____ Stress relief at 375degree for 5hrs Magnetic Particle Inspect per ASTM E1444 Cad Plate per AMS-QQ-P-416B, Class 1, Type 2 Embrittle relief at 375 degree for 8 hrs, Chromate Treat C of C req'd	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00	
IX AUG 15 2018												
DAS	174675	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00	
9	174672	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00	
9-89	174649	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00	
	174646	/ X	AUG 15 2018	Firmed	-	8/1/18	1 pcs	0 pcs	1 pcs	\$805.00/pcs	\$805.00	
Sub Total:							5	0	5	\$4,025.00		
											Grand Total: \$8,050.00	
Order Notes												
Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.												

Plex 7/27/18 11:42 AM dart.tsimiklis.chrisoula

Packing Slip



Cadorath Coating

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2

Phone: (204) 633-9420 Fax: (204) 633-8033

INVOICE NUMBER:

S96721

Sold To:

Dart Aerospace Ltd.
1270 Aberdeen St.

Hawksbury, ON K6A 1K7

ShipTo:

Net 2% Interest Per Month charged on Overdue Accounts.

Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Customer Order #: PO040630

DateReceived: Jul-31-2018

Terms:

NET 30 DAYS

G.S.T. #:

10071 6547 RT0001

Ship Via:

Ship Date:

Aug-03-2018

Item # Qty P/N & Description

2	1 EA	CROSSTUBE	S/N s093822
		P/N d350-748-101 ✓	W/O 185239 ✓
3	1 EA	CROSSTUBE	S/N s093613
		P/N d350-748-101 ✓	W/O 185240 ✓
4	1 EA	CROSSTUBE	S/N s093535
		P/N d350-748-101 ✓	W/O 185241 ✓
5	1 EA	CROSSTUBE	S/N s094950
		P/N d350-748-101 ✓	W/O 185242 ✓
6	1 EA	CROSSTUBE ✓	S/N s092710
		P/N D350-748-201	W/O 185243 ✓
7	1 EA	CROSSTUBE	S/N s092411
		P/N D350-748-201 ✓	W/O 185244 ✓
8	1 EA	CROSSTUBE	S/N s092564
		P/N D350-748-201 ✓	W/O 185245 ✓
9	1 EA	CROSSTUBE	S/N s092783
		P/N D350-748-201 ✓	W/O 185246 ✓
10	1 EA	CROSSTUBE	S/N s092689
		P/N D350-748-201 ✓	W/O 185247 ✓
1	1 EA	CROSSTUBE	S/N s093272
		P/N d350-748-101 ✓	W/O 185238 ✓

DAS
9
9-89

240
+
258

**CERTIFICATE OF
CONFORMANCE**

**CADORATH PLATING CO. LTD.
2150 LOGAN AVENUE
WINNIPEG, MANITOBA R2J-0J1**

DATE: Aug-03-2018

CONSIGNED TO: Dart Aerospace Ltd.
1270 Aberdeen St.
Hawksbury, ON K6A 1K7

W/O #: 185245

INVOICE #: 96721

**CONTRACT OR
PURCHASE ORDER # PO040630**

DESCRIPTION: CROSSTUBE

QTY 1

P/N # D350-748-201

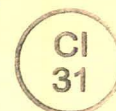
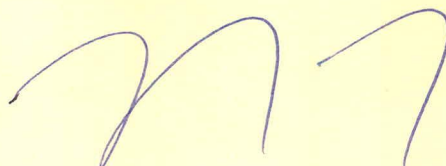
S/N # s092564

STRESS RELIEF BAKE HEAT CHART # 18-684. MPI IAW ASTM-E-1444. CADMIUM PLATE IAW AMS-QQ-P-416C TYPE 2 YELLOW CLASS 1. FINAL MPI IAW ASTM-E-1444. EMBRITTLE RELIEF BAKE HEAT CHART # 18-696.

DAS
9
9-89 18-03-16

CERTIFICATE: I certify that the items indicated here on have been inspected and tested and conform to all specifications and requirements detailed on the contract or purchase order.

Approved Inspector:



200
100
100



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040752

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO040752
PO Date: 8/15/18
Due Date: 8/20/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments: Rework for D119-796-241 -job# 180154 is
included in price

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174644	D350-748-101	FWD Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKYSERVICE:	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174638		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174632		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174619		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	181018		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
Sub Total:							5	0	5		\$613.64
2	174675	D350-748-201	Aft Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKYSERVICE:	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174649		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174672		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174648		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174646		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
Sub Total:							5	0	5		\$613.64
3	180759	D212-664-101	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
			1 X AUG 2 1 2018								



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040752

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
			LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
4	180560	D4885-1	End Fitting : Various STC's Issue P/O: _____ LPI Per ASTM 1417 LEVEL 2 Certificate of conformaty is required	Firmed	-	8/20/18	8 pcs	0 pcs	8 pcs	\$22.25/pcs	\$178.00
Grand Total:											\$1,528.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 8/20/18 1:26 PM dart.baker.diane



skyservice Work Order Traveler

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

Sky Service F.B.O. Inc.

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37085	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO040752
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	

Task: **UNSCHEDULED**

Sequence: 1

Work Required:

CARRY OUT NDT ON:

5 FWD CRUSSTUBES , P/N# D350-748-101 , J/S# 174644 , 174638 , 174632 , 174619 , 181018

5 AFT CRUSSTUBES , P/N# D350-748-201 , J/S# 174675 , 174649 , 174646 , 174672 , 174648

1 AFT CROSSTUBE , P/N# D119-796-241 , J/S# 180154 (REWORKED AREA)

1 FWD CROSSTUBE , P/N# D212-664-101 , J/S# 180759

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						AUG 16 2018	 DOT-APP 20 53-89
CRACK FOUND ON AFT CROSSTUBE J/S# 174648							
REMAINING ITEMS: NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date:
Name: RAFIK MELIKIAN		AUG 16 2018



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-748-201
Job Sheet 174672



005168

Part No: D350-748-201

Job Qty: 1 ea

Part Name: Aft Crosstube AS350 / AS355



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/20/18

Job Tracking No:

Due Date: 7/20/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV H IPP Rev: A New Issue 06-07-05 JLM IPP Rev: B Update qty of MS21042L5 06-09-12 KJ IPP Rev C Combined manufacturing 08.04.02 EC verified: DD IPP Rev: D 08-06-24 revD as per dwg DD verified: EC IPP Rev: E 08.12.11 Step17 was step 21 KJ Verified: EC IPP Rev: F 10.08.04 added QSI010 4.3 DD ver: EC IPP REV: G ADD UNDER BEND COMMENT 12-05-28 JLM IPP REV: H 12.11.05 as per dwg D350-748-141G DD ver: JLM IPP REV: I 15.03.19 as per dwg D350-748-241 revH dd ver: jlm

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	7/19/18	7/19/18	0.00	0.00	Start Up Crosstubes-1		18-7-17 DPZ
110	CNC Bend Crosstubes	1 pcs	7/19/18	7/19/18	0.00	2.94	CNC Bend Crosstube		18-7-17 DPZ
120	Crosstubes	1 pcs	7/19/18	7/19/18	0.00	2.65	Crosstubes-2		18-7-17 DPZ
125	Outsource	1 pcs	7/19/18	7/19/18	0.00	0.00	Outsource1 P/O: 048558		18-7-17 DPZ
126	Packaging	1 pcs	7/19/18	7/19/18	0.00	0.00	Packaging2		JUL 19 2018
127	QC	1 pcs	7/19/18	7/19/18	0.00	0.00	QC15		JUL 19 2018
128	Crosstubes	1 pcs	7/19/18	7/19/18	0.00	2.65	Crosstubes-2		DPZ
130	Crosstubes	1 pcs	7/19/18	7/19/18	0.00	1.85	Crosstubes-2		DPZ
140	QC	1 pcs	7/19/18	7/19/18	0.00	0.00	QC6		38
150	Outsource	1 pcs	7/19/18	7/19/18	0.00	0.00	Outsource3		18-7-17 DPZ
160	Packaging	1 pcs	7/19/18	7/19/18	0.00	0.00	Packaging2		AUG 15 2018
170	QC	1 pcs	7/19/18	7/19/18	0.00	0.00	QC6		18-7-17 DPZ
174	Outsource	1 pcs	7/19/18	7/19/18	0.00	0.00	Outsource2		18-7-17 DPZ
176	Packaging	1 pcs	7/19/18	7/19/18	0.00	0.00	Packaging2		AUG 21 2018
178	QC	1 pcs	7/19/18	7/19/18	0.00	0.00	QC5		18-7-17 DPZ
180	Spray Paint	1 pcs	7/19/18	7/19/18	0.00	0.88	Spray Paint		18-7-17 DPZ
190	QC	1 pcs	7/19/18	7/19/18	0.00	0.00	QC14		18-7-17 DPZ
200	Crosstubes	1 pcs	7/20/18	7/20/18	0.00	1.85	Crosstubes-2		
210	QC	1 pcs	7/20/18	7/20/18	0.00	0.00	QC5		
220	Packaging	1 pcs	7/20/18	7/20/18	0.00	0.00	Packaging1-3		
230	QC	1 pcs	7/20/18	7/20/18	0.00	0.00	QC4		
235	DC	1 pcs	7/20/18	7/20/18	0.00	0.00	DC		
240	Packaging	1 pcs	7/20/18	7/20/18	0.00	0.00	Packaging3-1		
250	QC21-FG	1 Ea	7/20/18	7/20/18	0.00	0.00	QC21		

Part Op 110 - Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT *****UNDER
Descriptions: BEND .225" PER SIDE*****

120 - ****VERIFY CROSSTUBE DIMENSIONS AS PER DWG****

125 - ISSUE P/O TO METCOR: _____

127 - ***MARK CUT LINES***

128 - CUT TUBE AT HEIGHT ON FAI SHEET TWIST: 0-001

130 - 2- Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs, 3-Deburr 4- Engrave Part # and Batch # as per

174756
Dwg D350-748-241 5-Remove all marks from tube within limits of D350-748-241

150 - Issue P/O: 040630

160 - Ensure certificate of conformity is attached

174 - ISSUE P/O TO ACCUREN: 040752 JMB

AUG 17 2018

180 - 1-Prime inside and out crosstube as per QSI 005 4.2

190 - Then, Wrap in plastic bag to protect from scratches

200 - INSTALL GROUND WIRE INSERT, THEN INSERT SCREW AND WASHER 2-Install supports with Proseal 890 per D350-748-241 and QSI 015 EXP: _____ 3-Install supports clamps Using Dt8876 as per Dwg D350-748-

241, Torque to 60-80 IN-LBS.

235 - Photocopy bluefile & type labels per PPPD350-748-201 CHG003

240 - Identify and pack for shipping as per PPPD350-748-201 PPP Rev: _____

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D350-748-241TRN	Crosstube Turning Detail	1 (1 ea)	90-Start up Operation	
ALS4-1032-225	Rivnut	1 Ea (1 ea)	200-Crosstubes	
D3502-1	Support	2 Ea (2 ea)	200-Crosstubes	
D5123-7	Clamp Cushion	2 Ea (2 ea)	200-Crosstubes	
MS21920-20	Clamp	2 Ea (2 ea)	200-Crosstubes	
MS27039-1-10	Screw	1 Ea (1 ea)	200-Crosstubes	
NAS1149D0363J	Washer	1 Ea (1 ea)	200-Crosstubes	
AN4-41A	Bolt	8 Ea (8 ea)	220-Packaging	
AN4-6A	Bolt	16 Ea (16 ea)	220-Packaging	
AN5-32A	Bolt - 5019376x2	4 Ea (4 ea)	220-Packaging	
D3500-1	Saddle	4 Ea (4 ea)	220-Packaging	
D3501-1	Bushing	16 Ea (16 ea)	220-Packaging	
MS21042L4	Nut	24 Ea (24 ea)	220-Packaging	
MS21042L5	Nut	4 Ea (4 ea)	220-Packaging	
NAS1149D0463J	Washer	32 Ea (32 ea)	220-Packaging	
NAS1149D0563J	Washer	8 Ea (8 ea)	220-Packaging	

EH138045-2
5058982
5015692
F1649/16x4
5103245
5089365
5083541
5089299
5093773

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D350-748-241TRN	1	0	0
200-Crosstubes	ALS4-1032-225	1	1,149	0
	D3502-1	2	62	0
	D5123-7	2	145	0
	MS21920-20	2	108	0
	MS27039-1-10	1	313	0
	NAS1149D0363J	1	3,131	0
220-Packaging	AN4-41A	8	230	0
	AN4-6A	16	620	0
	AN5-32A	4	114	0
	D3500-1	4	101	0
	D3501-1	16	99	0
	MS21042L4	24	2,466	0
	MS21042L5	4	722	0
	NAS1149D0463J	32	3,386	0
	NAS1149D0563J	8	2,107	0

Part Specifications

Specifications could not be found.

4.0 WEIGHT AND BALANCE

The following weight and balance information is for Dart crosstube installations only. This data should be similar to the existing installation. Differences from the parts removed are the responsibility of the installer.

DART CROSSTUBE	FWD/ AFT	WEIGHT	STA	MOMENT
D350-748-101	Fwd	35.2 lb	106.3 in	3742 lb-in
D350-748-103		(16.0 kg)	(2.70 m)	(43.2 kg-m)
D350-748-201	Aft	34.7 lb	162.4 in	5635 lb-in
D350-748-203		(15.7 kg)	(4.12 m)	(64.7 kg-m)

5.0 PARTS LIST

Qty -101	Qty -103	Qty -201	Qty -203	Part Number	Description
X				D350-748-101	CROSSTUBE INSTALLATION, AS 350/355 HIGH FWD
	X			D350-748-103	CROSSTUBE INSTALLATION, AS 350/355 HIGH FWD (SS)
		X		D350-748-201	CROSSTUBE INSTALLATION, AS 350/355 HIGH AFT
			X	D350-748-203	CROSSTUBE INSTALLATION, AS 350/355 HIGH AFT (SS)
1				D350-748-141	CROSSTUBE ASSEMBLY, AS 350/355 HIGH FWD
	1			D350-748-143	CROSSTUBE ASSEMBLY, AS 350/355 HIGH FWD (SS)
		1		D350-748-241	CROSSTUBE ASSEMBLY, AS 350/355 HIGH AFT
			1	D350-748-243	CROSSTUBE ASSEMBLY, AS 350/355 HIGH AFT (SS)
*2	*2	*2	*2	D3502-1	SUPPORT
*2	*2	*2	*2	D5123-7	CLAMP CUSHION
*1		*1		AELS-1032-225	INSERT
	*1		*1	AETC-1032	INSERT
*2	*2	*2	*2	MS21920-20	CLAMP (OR MS21920-21/-22)
*1		*1		MS27039-1-10	SCREW
	*1		*1	NAS1685-3-8	SCREW (OR MS51958-63)
*1		*1		NAS1149D0363J	WASHER (OR AN960JD10)
	*1		*1	NAS1149C0363R	WASHER (OR AN960C10)
4	4	4	4	D3500-1	SADDLE
16	16	16	16	D3501-1	BUSHING
16	16	16	16	AN4-6A	BOLT
8	8	8	8	AN4-41A	BOLT
4	4	4	4	AN5-32A	BOLT
32	32	32	32	NAS1149D0463J	WASHER (OR AN960JD416)
8	8	8	8	NAS1149D0563J	WASHER (OR AN960JD516)
24	24	24	24	MS21042L4	NUT (OR MS21042-4)
4	4	4	4	MS21042L5	NUT (OR MS21042-5)

* REFERENCE ONLY. PARTS ARE INCLUDED IN D350-748-141/-143/-241/-243 ASSEMBLIES ABOVE

Change Record

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Part Number: D350-748-201

Description: CROSSTUBE HIGH AFT[illegible]

